

REMARKS

Claims 1-19, 21-28, and 30-38 remain pending in the instant application. Claims 1-19, 21-28, and 30-38 presently stand rejected. Claims 20 and 29 are cancelled without prejudice. Claims 1, 10, 14, 22, and 33 are amended herein. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

Drawings

The Office Action mailed on March 31, 2003 did not indicate whether the drawings are acceptable or objectionable to the Examiner. Accordingly, Applicants respectfully request an indication from the Examiner whether the drawings are accepted.

Claim Rejections – 35 U.S.C. § 112

Claims 1-38 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

An “applicant may use … any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought.” M.P.E.P. § 2173.01. Examiners “should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement.” M.P.E.P. § 2173.02. “Definiteness of claim language must be analyzed, not in a vacuum, but in light of: (A) *The content of the particular application disclosure*; (B) The teachings of the prior art; and (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made” (Emphasis added). M.P.E.P. § 2173.02.

The Examiner rejected claims 1, 22, and 33 stating, “an external cavity’ renders the claim indefinite because it is unclear what is external cavity.” *Office Action* mailed March 31, 2003, page 2, section 2. Claim 1 has been amended to recite,

1. An apparatus, comprising:
an external cavity laser having an external cavity and a laser source within the external cavity;
a hermetically sealable container enclosing said external cavity laser in an inert atmosphere; and

an activated carbon drain positioned within said hermetically sealable container to absorb outgassing compounds.

Applicants respectfully submit that the recitation of “an external cavity” in independent claim 1 is not indefinite. As M.P.E.P. § 2173.02 requires, claim 1 must be analyzed in light of the content of the application disclosure. By way of example and not limitation, paragraph 22 of the specification states, “The external laser cavity is delineated by rear facet 18 and end mirror 14.” Referring to Figure 1 of the application, it is clear that gain medium 12 is within rear facet 18 and end mirror 14. One possessing ordinary skill in the art would clearly understand what is an external cavity, in relation to an external cavity laser.

The Examiner further rejected claims 1, 22, and 33 under § 112, second paragraph, stating, “The claim is not clear how a hermetically sealable container configured to enclose external laser in an inert atmosphere.” Claim 1 has been amended to remove the word “configured” and now simply recites, “a hermetically sealable container enclosing said external cavity laser in an inert atmosphere.” The question of “how” the hermetically sealable container encloses the external cavity laser is a matter of enablement. FIGS. 1 and 7 and associated text (see, e.g., paragraphs 22, 37, 39, 52, and 57-59) are examples of enabling disclosure of possible embodiments covered by claim 1.

Finally, the Examiner further rejected claim 1, 22, and 33 under § 112, second paragraph, stating, “the claim fails to provide any structure for laser apparatus.” Applicants respectfully disagree. Claim 1 includes the following structures (1) an external cavity, (2) a laser source, and (3) a hermetically sealable container.

The above comments are equally applicable to independent claims 22 and 33. In light of the above comments, Applicants believe the Examiner’s § 112, second paragraph rejections of claims 1, 22, and 33 have been overcome. Accordingly, Applicants request that the instant § 112, second paragraph rejections be withdrawn.

The Examiner further rejected claim 12, stating “the claim is not clear because the claim recites the laser apparatus but in the claim, the applicant does not recite any laser, the applicant recites just only the gain medium.” Claim 12 recites:

12. The apparatus *of claim 1*, wherein said inert atmosphere comprises a gas selected from nitrogen, helium, neon, argon, krypton, xenon, a nitrogen-helium mix, a neon-helium mix, a krypton-helium mix, or a xenon-helium mix.

Thus, claim 12 is dependent upon claim 1 which does recite a laser source. Since dependent claim 12 includes all the elements of its parent claim 1, claim 12 does recite a laser source. Accordingly, Applicants request that the instant § 112, second paragraph rejection of claim 12 be withdrawn.

Claim Rejections – 35 U.S.C. § 102

Claims 1-38 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,366,592 B1 to Flanders (“Flanders”).

A claim is anticipated only if each and every element of the claim is found in a single reference. M.P.E.P. § 2131 (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987)). “The identical invention must be shown in as complete detail as is contained in the claim.” M.P.E.P. § 2131 (citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989)).

Amended independent claim 1 now recites, in pertinent part, “an activated carbon drain positioned within said hermetically sealable container to absorb outgassing compounds.” Applicants submit that Flanders fails to disclose the aforementioned recited element of claim 1. Consequently, Flanders fails to anticipate each and every element of claim 1. Accordingly, Applicants request that the instant § 102(e) rejection of claim 1 be withdrawn.

Amended independent claim 14 now recites, in pertinent part, “a moisture trap positioned within said hermetically sealed container **to absorb moisture** within said hermetically sealed container.” Applicants submit that Flanders fails to disclose a moisture trap within a hermetically sealed container to absorb moisture.

In the Office Action mailed March 31, 2003, the Examiner stated, “It is inherent that the apparatus, wherein said inert atmosphere is moisture controlled because Flanders discloses the hermetically sealable container is hermetic and constructed from a mechanically and temperature stable substance.” However, simply providing a hermetic package and a bench constructed of a mechanically and temperature stable substance, as disclosed in Flanders, does not disclose a moisture trap to absorb moisture. In fact, Flanders fails to disclose any element within hermetic package 110 (the element cited by

Examiner as corresponding the Applicants' claimed hermetically sealed container) capable of absorbing moisture. A moisture trap to *absorb moisture* realizes the following advantages disclosed in paragraph 9 of the specification.

Such outgassed water vapor, if not trapped, may condense on critical optical surfaces and reduce performance of the external cavity laser, and may promote corrosion of components. Moisture condensation is particularly a concern after "cool-down" periods when the laser has not been in use.

Consequently, Flanders fails to disclose a moisture trap to absorb moisture, as recited in independent claim 14. Accordingly, Applicants request that the instant §102(e) rejection of claim 14 be withdrawn.

Amended independent claim 22 now recites, in pertinent part, "vacuum baking at least one outgassing component of said external cavity laser prior to said hermetically sealing."

"Product-by-process claims are not limited to the manipulations of the recited steps, *only the structure implied by the steps*" (emphasis added). M.P.E.P. § 2113. "If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *Id.*

Applicants submit that an external cavity laser that has been vacuum baked prior to hermetically sealing is not the same or obvious product as an external cavity laser that has not been vacuum baked prior to hermetically sealing. In fact, the specification discloses

Preparation and assembly of the various components of the apparatus 61 may be carried out under clean room conditions, and one or more cycles of vacuum baking, and/or baking under inert atmosphere may be carried out *to remove residual moisture and volatile organic hydrocarbons from the various components* prior to hermetically sealing the enclosure 61 around the external cavity laser (emphasis added).

Specification, paragraph 58. Thus, an external cavity laser that has not been vacuum baked prior to hermetically sealing fails to realize the beneficial effects of reduced residual moisture and volatile organic hydrocarbons from various components.

Consequently, the structure implied by the step of vacuum baking at least one outgassing component of said external cavity laser prior to said hermetically sealing is not the same nor obvious to the structure disclosed by Flanders. Applicants submit that Flanders fails to disclose vacuum baking prior to hermetically sealing and therefore fails to anticipate each and every element of claim 22. Accordingly, Applicants request that the instant § 102(e) rejection of claim 22 be withdrawn.

Amended independent claim 33 now recites, in pertinent part, “an activated carbon drain positioned within said hermetically sealable container to absorb outgassing compounds.” For the reasons discussed in connection with independent claim 1 above, Applicants request that the instant § 102(e) of claim 33 be withdrawn.

Dependent claims 2-13, 15-19, 21, 23-28, 30-32, and 34-38 are novel over the prior art of record for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own. Accordingly, Applicants respectfully request that the instant § 102 rejections for claims 2-13, 15-19, 21, 23-28, 30-32, and 34-38 be withdrawn.

CONCLUSION

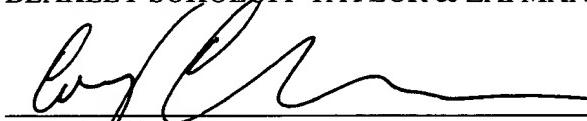
In view of the foregoing amendments and remarks, Applicants believe the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative if the Examiner believes that an interview might be useful for any reason.

CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

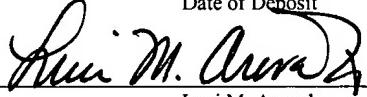
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP


Date: June 30, 2003
Cory G. Claassen
Reg. No. 50,296
Phone: (206) 292-8600

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